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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,773

10/17/2003

Toshihiro Sakawa

2635-186

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23117

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08/31/2004

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EXAMINER

CYGAN, MICHAEL T

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 08/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/686,773

Applicant(s)

SAKAWA ET AL.

Examiner

Michael Cygan

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 17-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-16 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 17-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6 August 2004.

### ***Specification***

2. The disclosure is objected to because of the following informalities: at page 31, line 1, a sentence fragment appears. At page 31, lines 13-19, reference should be made to Figure 20 which provides the illustration for the discussed subject matter. Appropriate correction is required.

### ***Claim Objections***

3. Claim 2 is objected to because of the following informalities: in the last two lines, the phrase "a midpoint of the distance toward the end face of the housing" is not understood. Appropriate correction is required.
4. Claim 6 is objected to because of the following informalities: in the last two lines, the phrase "held in close contact with the bottom wall" is not understood, since the embodiments represented in claims 7-11

(corresponding to Figures 19-23A) which depend from claim 6 do not appear to have a partition plate in contact with the bottom wall. The partition plate appears to be in some cases in contact with the side wall of the explosionproof cover member. The partition plate is adjacent to the bottom wall, although not necessarily in contact with the bottom wall. Appropriate correction or explanation is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 12-14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada (US 6,279,376 B1). Yamada discloses the claimed invention, a gas sensor for use in the exhaust pipe of an automobile, comprising a cylindrical housing, air-fuel ratio laminated sensor element [801], atmospheric side cover, gas side cover composed of nested cup-shaped covers having side inlet holes [25,35] and bottom holes [26,36], where the inlet holes are offset from the sensor element and from the outlet holes, and the bottom walls of the covers form a partition. The holes are within the range of 0.3 to 12 mm<sup>2</sup>; see column 4 lines 62-63 and column 5 lines 9-11. The gas

side cover may be rectangular; see column 13 lines 9-10. See entire document, especially Figures 18A and 21A.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada (US 6,279,376 B1) in view of Sato (US 6,739,177 B2). Yamada teaches the claimed invention except for the use of the sensor in a surge tank. Sato teaches a similar sensor (Figure 19A) which is placed in a surge tank; see column 12 lines 1-8. It would have been obvious to one having ordinary skill in the art at the invention was made to use a surge tank as taught by Sato as the receptacle for the sensor taught by Yamada to sense the surge tank gas, since Sato teaches that this provides an advantageous signal representing the oxygen content in the intake gas for control operations.

***Allowable Subject Matter***

7. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

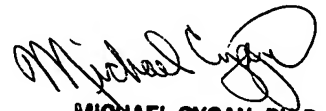
***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Similar sensors are disclosed by Makino (US 6,346,179 B1 and JP 2000-171430A), Nakamura (US 6,780,298 B2), Noda (US 6,327,891 B1), Nakajima (US 4,683,049), Ando (US 6,214,208 B1), and Yamada (US 688,157 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is (571) 272-2175. The examiner can normally be reached on 8:30-6 M-Th, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**MICHAEL CYGAN, PH.D.**  
**PRIMARY EXAMINER**